

IN THE CLAIMS:

Please amend the claims as follows.

1. (Currently Amended) A method for managing a queue of packets ~~queues~~ using queue sets, the method comprising:

~~allocating a plurality of consecutive packets to a queue set, queue-sets-based-on-a-~~
~~queue-set-target-size~~ the plurality of consecutive packets being associated with
the queue;
~~determining a queue service interval for a data rate based upon the queue-set target-~~
~~size; and~~
~~performing a queuing operation on the queue set, queuing operations on at least one-~~
~~of the queue sets~~ the queuing operation treating the queue set as a single
entity, such that the queuing operation is performed on each of the plurality of
consecutive packets in the queue set.

2. (Currently Amended) The method of claim 1, wherein allocating the plurality of
consecutive packets to the queue set further comprises:

allocating the plurality of consecutive packets to the queue set based on a target queue
set size, the target queue set size being approximate to a largest supported
packet length of the queue.
~~wherein determining a queue service interval for a data rate based upon the queue-set~~
~~target size further comprises:~~
~~determining an average queue set size for a queue over a period of time; and~~

~~adjusting the queue service interval based upon the difference between the average queue set size and the queue set target size.~~

3. (Currently Amended) The method of claim 1, further comprising:
determining a queue service interval for performing queuing operations on queue sets based upon a desired data rate and a target queue set size;
wherein performing the queuing operation on the queue set related to the queue further comprises:
performing a first queuing operation on a first queue set related to the queue,
delaying a period of time equivalent to the queue service interval, and
performing a subsequent queuing operation on a second queue set related to the queue.
~~wherein performing queuing operations on at least one of the queue sets as a single entity further comprises:~~
~~shaping traffic flow of queue sets for a queue at a rate for transmission of data from the queue.~~
4. (New) The method of claim 3, wherein determining the queue service interval further comprises:
determining an average queue set size for the queue sets over a period of time; and
adjusting the queue service interval based upon a difference between the average queue set size and the target queue set size.

5. (New) The method of claim 1, wherein performing the queuing operation further comprises:
shaping traffic flow of the queue set at a rate for transmission of data from the queue.
6. (New) The method of claim 1, wherein the queuing operation comprises at least one selected from a group consisting of: enqueue operation and dequeue operation.
7. (New) The method of claim 1, further comprising:
determining that each queue set of a plurality of consecutive queue sets is the same;
using one representative queue set to represent the plurality of consecutive queue sets,
a replication count of the queue set being equivalent to the number of queue sets in the plurality of consecutive queue sets; and
performing a queuing operation on the representative queue set, such that the queuing operation is performed on each of the plurality of consecutive queue sets.
8. (New) A system for queue management using queue sets, comprising:
a queue set generator configured for allocating a plurality of consecutive packets to a queue set, the plurality of consecutive packets being associated with a queue,
the queue set generator further configured for generating a notification when a queue set is ready for scheduling; and
a scheduler communicatively coupled to the queue set generator to receive the notification, the scheduler configured for performing a queuing operation on the queue set, the queuing operation treating the queue set as a single entity,

such that the queuing operation is performed on each of the plurality of consecutive packets in the queue set.

9. (New) The system of claim 8, wherein the queue set generator is further configured for allocating the plurality of consecutive packets to the queue set based on a target queue set size, the target queue set size being approximate to a largest supported packet length of the queue.
10. (New) The system of claim 8, wherein the scheduler is further configured for determining a queue service interval for performing queuing operations on queue sets based upon a desired data rate and a target queue set size, performing a first queuing operation on a first queue set related to the queue, delaying a period of time equivalent to the queue service interval, and performing a subsequent queuing operation on a second queue set related to the queue.
11. (New) The system of claim 10, wherein the scheduler is further configured for determining an average queue set size for the queue sets over a period of time, and adjusting the queue service interval based upon a difference between the average queue set size and the target queue set size.
12. (New) The system of claim 8, wherein the scheduler is further configured for shaping traffic flow of the queue set at a rate for transmission of data from the queue.

13. (New) The system of claim 8, wherein the queuing operation comprises at least one selected from a group consisting of: enqueue operation and dequeue operation.
14. (New) The system of claim 8, wherein the queue set generator is further configured for determining that each queue set of a plurality of consecutive queue sets is the same, and using one representative queue set to represent the plurality of consecutive queue sets, a replication count of the queue set being equivalent to the number of queue sets in the plurality of consecutive queue sets,
and wherein the scheduler is further configured for performing a queuing operation
on the representative queue set, such that the queuing operation is performed
on each of the plurality of consecutive queue sets.